

SERVICE BULLETIN

STINSON DIVISION

CONSOLIDATED VULTEE AIRCRAFT CORPORATION

WAYNE, MICHIGAN

TITLE Rudder Spar Cracks

BULLETIN NO. 234

MODELS AFFECTED: 108 (Voyager 150)
Serial 108-1 through 108-129
except 108-3, 4, 56, 102, 103,
104, 105, 110, 111, 119, 121,
124 and 126

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DATE June 10, 1946

It has been found that the web of the rudder spar has cracked at the upper hinge fitting on this model in the field. It is recommended that the rudder be removed and examined for this crack and that the spar be reinforced as herein outlined even though no crack has appeared.

Before removing the rudder, mark a line on each side of the rudder locating the upper face of the upper hinge bearing bushing. Since the fitting containing this bearing is to be replaced it is important that a means of locating the new fitting be provided.

Remove the rudder as follows: Detach the springs between the bottom of the rudder and the tail wheel. Disconnect control cables from rudder control horn. These cables are spring loaded; pulling them sharply will slacken them sufficiently to permit their detachment. Remove hinge bolts and pull rudder back off fin.

Drill heads from the two bolts attaching upper hinge fitting to rudder spar and remove this fitting. Bolts and nuts will drop inside of rudder and may be removed through the tail light opening. If spar web under fitting is cracked, drill a hole (1/8 Drill) at each end of crack to prevent further cracking.

Drill out eight rivets in each spar flange as shown on Figure 1. Insert new reinforcing channel into spar and slide upward until a snug fit is obtained. Drill (#40 Drill) two holes, in opposite flanges and at opposite ends, using old rivet holes in spar flange as guides. These holes are to be used as alignment guides.

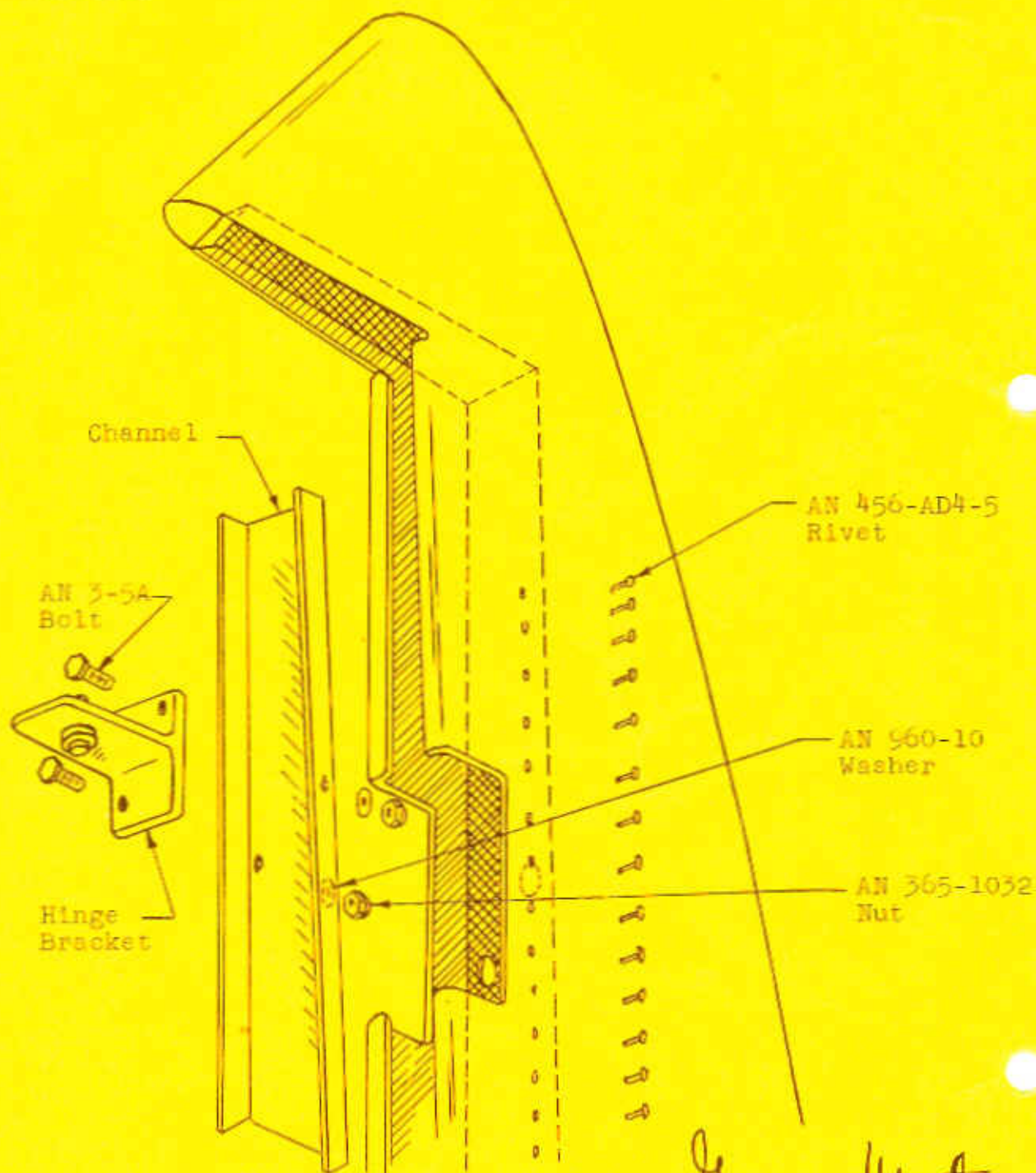
Position new hinge fitting according to the alignment marks made before removing rudder and mark location of attachment bolts therefor. Drill and ream $0.190 \pm .001$ holes through spar for attachment of hinge fitting. Remove reinforcing channel and redrill holes in spar web to 1/2 inch diameter for nut clearance.

Assemble hinge fitting on reinforcement channel and reinstall channel in spar aligning guide holes previously made. Drill (#30 Drill) out remaining rivet holes in spar flange and drill new holes spaced in between previous rivets except at fitting where rivet could not be driven. Rivet assembly in place with rivets furnished. Reinstall rudder on airplane.

REQUIRED:

1	Hinge Fitting	108-2611002
1	Reinforcing Channel	108-2611000-300
30	Rivet	AN 456AD4-5
2	Bolt	AN 3-5A
2	Washer	AN 960-10
2	Nut	AN 365-1032

NOTE: Airplanes serial 108-3, 4, 56, 102, 103, 104, 105, 110, 111, 119, 121, 124, 126, 130 and up have been modified at the factory.



George Martin